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TITLE: System for detecting malodorous thiol compounds, useful e.g. for monitoring animal litter, comprises solid support carrying bis(dimethylamino)benzhydrol as color-change indicator

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PRIORITY-DATA: 2004ES-0002189 (September 14, 2004)

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PATENT-FAMILY:

PUB-NO	PUB-DATE	LANGUAGE	PAGES	MAIN-IPC
<input type="checkbox"/> <u>ES 2259514 A1</u>	October 1, 2006		000	C09B011/00
<input type="checkbox"/> <u>WO 2006032719 A1</u>	March 30, 2006	S	028	C09B011/00

DESIGNATED-STATES: AE AG AL AM AT AU AZ BA BB BG BR BW BY BZ CA CH CN CO CR
CU CZ DE DK DM DZ EC EE EG ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KM KP
KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NA NG NI NO NZ OM PG PH
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ZW AT BE BG BW CH CY CZ DE DK EA EE ES FI FR GB GH GM GR HU IE IS IT KE LS LT LU
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APPLICATION-DATA:

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ES 2259514A1	September 14, 2004	2004ES-0002189	
WO2006032719A1	September 13, 2005	2005WO-ES70129	

INT-CL (IPC): A01K 1/01; A61L 9/01; A61L 9/014; C07C 215/00; C07C 215/68; C09B 11/00;
C09B 11/02; G01N 21/77; G01N 21/78; G01N 33/52

ABSTRACTED-PUB-NO: WO2006032719A

BASIC-ABSTRACT:

NOVELTY - Indicator system (A) comprises, on a solid, porous support, 4,4'-bis(dimethylamino)
benzhydrol (I; Michler's hydrol), or its derivative that retains the same function and reactivity. (I)
undergoes a color change for detection, in the vapor phase, of sulfur-containing compounds.

DETAILED DESCRIPTION - An INDEPENDENT METHOD is also included for a method for
preparing (A).

USE - (A) is used to detect malodorous sulfur compounds (thiols) in the liquid or gas phases, e.g. where

present as additives to gas; released from animal litter (to detect loss of deodorant capacity); or as aromas characteristic of foods or their additives (claimed); also where derived from industrial waste, waste water, or animal husbandry, and in cases of halitosis.

ADVANTAGE - The color change of (I) occurs at a thiol concentration lower than that which is detectable by humans, and only simple visual examination is required for detection.

ABSTRACTED-PUB-NO: WO2006032719A
EQUIVALENT-ABSTRACTS:

CHOSEN-DRAWING: Dwg.0/0

DERWENT-CLASS: A89 E19 J04 P14 P34 S03
CPI-CODES: A11-C04B2; A12-L04B; E10-B01A2; E10-E03; E11-Q03L; E31-P; J04-B01B;
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L11: Entry 3 of 3

File: USPT

Feb 14, 1989

US-PAT-NO: 4804630

DOCUMENT-IDENTIFIER: US 4804630 A

TITLE: Kit and method for detecting lithium ions

DATE-ISSUED: February 14, 1989

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
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US-CL-CURRENT: 436/74; 422/56, 422/57, 422/61, 436/164, 436/169, 436/79

CLAIMS:

What is claimed is:

1. An analytical kit for selectively determining the lithium content of a sample comprising:

(a) lithium selective color indicator comprising a leuco precursor of an arylmethane dye dispersed in a matrix, with all or a portion of said indicator being capable of reacting with lithium to develop a color when contacted with a sample containing lithium, and

(b) means for measuring any color development of all or a portion of said indicator after it has been contacted with a sample and indicating the lithium content of such a sample based on any such color development.

2. The analytical kit of claim 1 wherein said measuring and indicating means (b) is a light scanning source capable of detecting a change in reflectivity of all or a portion of said indicator after it has been in contact with a sample.

3. The analytical kit of claim 1 wherein said measuring and indicating means (b) is a predetermined color intensity chart depicting colors obtained after contacting of said indicators like that of (a) with various known concentrations of lithium; whereby all or a portion of said indicator that has been contacted with a sample can be compared with the colors on said chart to indicate the lithium content of such a sample.

4. The analytical kit of claim 3 wherein said lithium ion selective indicator is coated on a substrate that provides a white background for a visual determination of any development of color corresponding to a lithium content of less than about 3 meq/L in a sample.

*Sulfur
ethylene
oxide*

+ clm 11

5. A method for selectively detecting the presence lithium in a sample comprising the steps of:

(a) contacting all or a portion of a leuco precursor of an arylmethane dye with a sample to develop a color when the sample contains lithium, and

(b) monitoring any development of color as an indication of the presence of lithium in the sample.

6. The method of claim 5 wherein said monitoring step (b) is a visual observation of color.

7. The method of claim 5 further comprising step (c) comparing any development of color to a color corresponding to a known concentration of lithium to determine the concentration of lithium in the sample.

8. The method of claim 7 wherein said sample comprises blood serum having potassium ions in excess of about 10 mM and sodium ions in excess of about 145 mM.

9. The method of claim 5 wherein said monitoring step (b) is accomplished by subjecting said contacted portion of said leuco precursor to a scanning light source to detect a change in reflectivity from that of a leuco precursor that has not contacted lithium.

10. The method of claim 9 wherein said leuco precursor of an arylmethane dye is selected from the group consisting of triarylmethane dye precursors, diarylmethane dye precursors, and any combination thereof.

11. The method of claim 10 wherein said leuco precursor is selected from the group consisting of 4,4-bis-dimethylaminobenzhydrol or derivative thereof.

12. The method of claim 11 wherein said leuco precursor is coated on a substrate.

13. The method of claim 12 wherein said substrate is polyethylene coated with silicone.

[Previous Doc](#)

[Next Doc](#)

[Go to Doc#](#)